

Serial No. 09/694,927

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



20

Applicant: HUANG ET AL.

Serial No.: 09/694,927

Filed: OCTOBER 24, 2000

For: FOOD PRODUCT WITH
ENHANCED CRISPINESS

Examiner: TRAN LIEN, THUY

Group Art Unit: 1761

Docket No. P5690US (formerly
8863.73US01)

DECLARATION OF DIANE ROSENWALD PURSUANT TO 37 CFR 1.1.31

Dear Sir:

I, Diane Rosenwald, hereby declare that:

1. I am an inventor of the subject matter described and claimed in United States Patent Application Serial No. 09/694,927 filed October 24, 2000 entitled "Food Product With Enhanced Crispiness".
2. It is my understanding that the U.S. Patent No. 6,093,437 to Katta et al., issued on July 25, 2000, and was filed on May 18, 1999. It is my further understanding that this patent was not issued more than one year prior to my above noted filing date and is a reference under 35 USC 102(e) only as of May 18, 1999.
3. I hereby declare that prior to the filing date of May 18, 1999 of the Katta et al patent, Kamel Chida, Victor Huang, Fern Panda and I conceived the invention as disclosed and claimed in the aforementioned United States Patent Application Serial No. 09/694,927. I further declare that the disclosed dough and batter composition and the

baked good was actually reduced to practice and was successfully used with a filling on June 30, 1998. I still further declare that from a time prior to the filing date of May 18, 1999 of the aforementioned Katta et al patent until June 30, 1998 when the conceived invention was actually reduced to practice and successfully tested, we diligently worked toward the actual reduction to practice by formulating, testing and successfully using the baked good with a filling.

4. As evidenced by the document attached hereto (Exhibit A) which identifies the subject as being "Method for producing a more stable bakery component when in contact with ice cream", we disclosed the invention claimed in the aforementioned U.S. Patent Application 09/694,927 to witnesses prior to the filing date of May 18, 1999 of the Katta et al patent. As discussed and attached to our "Record of Invention" form the invention was described in an internal monthly highlight memo on July 30, 1998 identified as "July Monthly Highlights 1998" (Exhibit B).

5. I further declare that to the extent that the Katta et al. patent is relevant to our invention we conceived the subject matter disclosed and claimed herein prior to the Katta et al. filing date of May 18, 1999. Moreover, we obtained a successful actual reduction to practice prior to the noted Katta et al filing date and diligently worked toward said actual reduction to practice from a time prior to said filing date of the Katta et al document.

6. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date

10/2/2002

Signature

Diane Rosenwald
Diane Rae Rosenwald

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Commissioner for Patents
Washington, D.C. 20231

I HEREBY CERTIFY THAT ON 10-4-02, THIS
PAPER IS BEING DEPOSITED WITH THE U.S. POSTAL SERVICE AS FIRST
CLASS MAIL IN AN ENVELOPE ADDRESSED: COMMISSIONER FOR
PATENTS, WASHINGTON, D.C. 20231.

Pat Hagglom

TO:Patent Department, MS 37J1

A. RECORD OF INVENTION

1. Title of invention and project name:

Method for producing a more stable bakery component when in contact with ice cream.

2. Name of inventor(s):

Victor Huang, Diane Rosenwald, Kamel Chida

3. On what date did you first conceive the idea underlying the invention?

1/7/98

4. Where and under what circumstances did the idea form and develop?

While writing up the technical plan for the ice cream cone project for Haagen Dazs.

5. On what date was the idea first put in writing or drawings (e.g., meeting notes, notebook entries, etc.)?

1/7/98

6. Where are these written records now located? (Give full details including notebook numbers and pages.)

Haagen Dazs ice cream cone project technical plan

7. Has the idea been disclosed to anyone outside the company?

No.

a.If so, when and under what circumstances (e.g., Secrecy Agreement, Confidential Meeting)?

b.To whom was the disclosure made (identity of individual(s) and company affiliation(s))?

8. On what date was the idea first "reduced to practice"?

On 6/30/98

9. Where was the reduction to practice accomplished?

R&D bench top

10. List the names of all persons who witnessed the reduction to practice:

Hans Zoerb, Jerry Rabe, Fern Panda

11. On what date was the reduction to practice first described in writing?

On 7/30/98

THE PILLSBURY COMPANY
INVENTION RECORD

12. Where are the writings referred to in item 11 located?
R&D Doc-it 178 Notebook 5932 item #7
13. List all technical reports containing descriptions of the invention.
July Monthly Highlights 1998 – Victor Huang 7/30/98
14. If applicable, on what date was the invention first disclosed to the public as a consumer test, sales sample or retail product? If the invention is a piece of equipment or a process, on what date(s) were products made by using this equipment or process first disclosed to the public?
Not yet.
15. List all prior patents, technical articles, textbooks, etc. that you know of which describe similar or prior solutions to the problem solved by the invention.

B. DESCRIPTION OF THE INVENTION

During frozen storage, the moisture from ice cream tends to migrate toward the drier bakery components such as wafer cone or cookie, resulting in the loss of crispness.

One way to minimize moisture migrations is to coat the bakery components with fatty substances. The problem with this approach is that sometimes the fatty substance tends to crack and lose its barrier properties. Yet another approach is to increase the Tg' of the fat-free frozen concentrated matrix in ice cream. The problem is that it will negatively affect the texture properties of the ice cream. Our approach here is to focus on cone formulation.

It was found that we can increase the moisture content at which the cone loses its crispness by replacing sucrose with 10DE maltodextrin in the batter. At time zero, maltodextrin-containing cones are crisper (10 vs. 5) and less hard (4 vs. 8) than control cones which contain sucrose. At 9.8% moisture, maltodextrin-containing cone has Young's Modulus of 3700 Kg/m while the control cone has 940 Kg/m. The higher modulus leads to crisper texture. Cones made with high protein flour yet without any soluble carbohydrates are too hard and not as acceptable. The molecular weight and concentration of maltodextrin can be selected in such a way that the cone is still soft enough to be rolled right after baking.

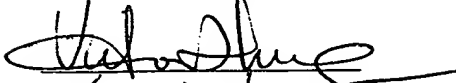

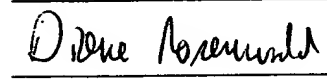
C. THE FOLLOWING LISTED PAPERS FORM A PART OF THIS DISCLOSURE AND ARE ATTACHED HERETO:

July Monthly Highlights 1998 – Victor Huang 7/30/98

THE PILLSBURY COMPANY
INVENTION RECORD

D. SIGNATURES


Inventor(s) Signature(s):

Date:

7/25/99
7/26/99
7/27/99

Witness(es) Signature(s):



Pillsbury Confidential and Proprietary Information

Title: July Monthly Highlights 1998 - Victor Huang
Category: Monthly Highlights
Sub: 07/98
ProjName: Toastable Glaze; Problem Solving; STD Fizzy: Fruit & Dough; Haagen-Dazs ice cream cone
Nbr/NB: I66; I63; I73; I78/5801; 5777; 5841; 5932
SAP #: 1100039; 1100035; 1100045; 1100055
Doc Type: Status Reports & Monthly Highlights
Author: Victor T Huang on 07/30/98
Department:
Entered by: Victor T Huang
Modified by : Victor T Huang on 07/30/98
Status: Closed 07/30/98

July Monthly highlights 1998 - Victor Huang 7/31/98

SCRAMBLE EGG COST REDUCTION

Objectives: To decrease the cost of egg in Scramble filling by 15 cents/lb by 10/98.

Status: Lab-bench experimentation so far shows that the cost saving is as high as 15.8 cents/lb. The cost reduction is from replacing more expensive powdered shortening (0.82 \$/lb) with cheaper soy bean oil(0.30\$/lb), 27DE corn syrup solids (0.21\$/lb), and corn starch (0.12\$/lb). The resulting products are similar to the control in density (0.37 g/cc) and hardness at 70F. The only difference so far is its being softer at 40F (558g vs. 665g).

Next Step: We will try to increase the firmness at 40F by decreasing the ratio of CSS to starch, this will also decrease product cost. We will also need to confirm the oxidative stability. Then, we can conduct a BOP trial in 9/98.

FAT REDUCTION TECHNOLOGY

Status: We are developing the technical plan and timing for this project. This is a great opportunity to revisit and understand more about the extended roll-in shortening technology.

Next steps: As soon as the pilot plant running date is determined, we will optimize the type and percentage of RI shortening, 20DECSS/RI shortening ratio. Then, we will pick more promising ones to run at BOP after getting the ingredient made by the supplier.

MOISTURE MIGRATION IN ICE CREAM CONE

(I78)

Objectives: To study the feasibility of developing enabling technologies for a crisp filled ice cream cone product. The key is minimizing moisture migration from ice cream to the cone through air and contact surface during shelf life.

Status:

A. Cone reformulation

Maltodextrin-containing cones are crisper (10 vs. 5) and less hard (4 vs. 8) than control cones which contain sucrose. At 9.8% moisture, maltodextrin-containing cone has Young's Modulus of 3700 Kg/m while the control cone has 940 Kg/m. Cones made with high protein flour yet without any soluble carbohydrates are too hard and not as acceptable.

B. Barrier design

In addition to the fat based barriers, we are also evaluating the properties of calcium alginate, ethyl cellulose, modified gluten, and zein. The modified gluten from Midwest Grains is claimed to be an effective barrier once the liquid film has been heat dried to render the protein insoluble in water

C. Ice cream formulation

The experiment for ice creams with three different Tg's (-30.4, -34.2, and -38.2C) in contact with cones at 20, 10, and 0F is ongoing. The preliminary results at 20F show that directionally more water migrates from lower Tg' ice cream to the cone.

Next step: Continue to collect moisture migration data. Get ready for the project review on 8/28 and file patent applications.

SWEET ROLL TECHNOLOGY (I73)

Objectives: To apply the gelling technology developed in Fizzy project to Sweet Roll for a filling that is processable, refrigerated stable, boiling-out resistant, and gooey.

Status: Trained panel results show that by adding 0.25% sodium alginate (Colton) to the gelatin/starch system, we can improve gooeyness to the same level as 2.25% sodium alginate system. Gooeyness is independent of type of alginate (Keltone HV vs. LV) and its concentration (0.25 vs. 0.5%). Product stability is not affected by adding sodium alginate. The only setback is that the filling viscosity is being too high for the current processing system to handle. Thus, the team has decided to go ahead with the gelatin/starch system for F99 commercialization, and the system with added alginate will be targeted for later introduction. Meanwhile in STD, we are trying to identify an alginate that will

give the same degree of gooeyness without increasing the viscosity of current filling. Ideas are propylene glycol alginate, lower level of current alginate, and adding a calcium chelator to filling.

Next steps: Lower viscosity fillings will be canned into product on 8/5. If the solution is easily implementable, then we will meet with the business team, otherwise we will conclude the project and write up the patent application.

TOASTABLE GLAZE (I66)

Objectives: To evaluate the feasibility of developing enabling technologies for a high quality, sweet, toastable, and freeze/thaw stable glaze for kosher frozen waffles.

Status: The shelf life is still ongoing. So far, we are comfortable with the storage stability and toaster tolerance.

Next Step: We are evaluating the ways to make the product sweeter by adding HMCS and flavor enhancer. Get ready for the 9/98 CLT.

FOOD SERVICE ICING (I63)

Objective: To reduce the stickiness of an icing that is stable toward sucrose hydrate formation but too sticky to process.

Status: Preliminary shelf life results show that we need at least 15% high maltose corn syrup and 2% 20DE corn syrup solids to minimize sucrose hydrate formation during storage. We also found that a drier icing tends to be more stable and one way to make drier icing is by increasing sucrose content. One solution is to add enough corn syrups to a high sucrose formula, so that it is not sticky, yet still stable

Next Steps: We will meet with Food Service group on 8/5 to finalize pilot plant runs. Continue to monitor shelf life.

Security Release Date:

07/30/98